

PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

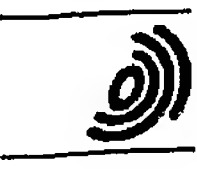
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

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Applicant's or agent's file reference L3217PCT		FOR FURTHER ACTION		See Form PCT/PEA/416
International application No. PCT/US2005/003594		International filing date (day/month/year) 04.02.2005	Priority date (day/month/year) 04.02.2004	
International Patent Classification (IPC) or national classification and IPC B42F15/06				
Applicant 3M INNOVATIVE PROPERTIES COMPANY				
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> sent to the applicant and to the International Bureau) a total of 10 sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>				
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>				
Date of submission of the demand 05.12.2005		Date of completion of this report 04.04.2006		
Name and mailing address of the international preliminary examining authority:  European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016		Authorized Officer Curt, D Telephone No. +31 70 340-4383		



INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/US2005/003594

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
 - ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

Description, Pages

3-30	as originally filed
1, 2	received on 05.12.2005 with letter of 05.12.2005

Claims, Numbers

1-26	received on 05.12.2005 with letter of 05.12.2005
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Drawings, Sheets

1/18-18/18	as originally filed
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- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to sequence listing (*specify*):

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to sequence listing (*specify*):

* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/US2005/003594

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-26
	No: Claims	
Inventive step (IS)	Yes: Claims	1-26
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-26
	No: Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

**INTERNATIONAL PRELIMINARY
REPORT ON PATENTABILITY
(SEPARATE SHEET)**

International application No.

PCT/US2005/003594

Re Item V

**Reasoned statement with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement**

Reference is made to the following documents/:

D1: GB-A-1 053 292 (LESLIE PEAK) 30 December 1966 (1966-12-30)

D2: US-A-5 318 825 (NABER ET AL) 7 June 1994 (1994-06-07)

1. The document D2 is regarded as being the closest prior art to the subject-matter of claim 1 and shows (the references in parentheses applying to this document) a sheet (10) which may be selectively secured to a mounting substrate comprising:
 - a first substrate having a writeable surface (16) on one side thereof and a mounting surface (18) on a second opposite side thereof;
 - and a pressure layer including a pressure sensitive adhesive (22) exposed on the second side of the first substrate a standoff element on the second side of the first substrate,
 - the standoff element having a height greater than a height of the adhesive
 - wherein in the absence of a threshold level of pressure applied to the pressure layer, the pressure sensitive adhesive is spaced from the mounting substrate, and wherein the sheet is deformable such that a threshold level of pressure applied to the pressure layer brings the pressure sensitive adhesive into sheet-securing engagement with the mounting substrate.

The subject-matter of claim 1 differs from this known sheet with repositionable adhesive in that it further comprises

- a standoff element on the second side of the first substrate,
- the standoff element having a height greater than a height of the adhesive
- wherein in the absence of a threshold level of pressure applied to the pressure layer, the pressure sensitive adhesive is spaced from the mounting substrate, and wherein the sheet is deformable such that a threshold level of pressure applied to the pressure layer brings the pressure sensitive adhesive into sheet-securing engagement with the mounting substrate.

The problem to be solved by the present invention may be regarded as the provision

**INTERNATIONAL PRELIMINARY
REPORT ON PATENTABILITY
(SEPARATE SHEET)**

International application No.

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of a sheet with an improved mechanism to make the sheet adhere or not to a substrate.

The solution to this problem proposed in claim 1 of the present application is considered as involving an inventive step (Article 33(3) PCT) for the following reasons: when considering the teaching of the prior art (see in particular D1), the man skilled in the art would not have any hint so as to make a sheet such as described in the current claim 1.

2. Claims 2 to 26 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

SHEET WITH SELECTIVELY ACTIVATED ADHESIVE

BACKGROUND OF THE INVENTION

5 This invention relates to articles which can be selectively secured to a mounting substrate by pressure sensitive adhesive. More particularly, this invention relates to a substrate in sheet form such as an index card having a writeable surface on one side and a mounting surface on a second opposite side, with a securing mechanism operable via a pressure threshold adhesive mechanism which is selectively exposed on the
10 mounting side of the first substrate. Dependent upon a level of threshold pressure applied to the securing mechanism, the exposed pressure sensitive adhesive is either spaced from the mounting substrate or the article is deformable to bring the pressure sensitive adhesive into article securing engagement with the mounting substrate.

Memories are imperfect. Thus, we often write down things we want to
15 remember at a later date. This may be a grocery list, a "to do" list, a speech, study notes, or other information we do not want to forget. For example, a student may take a series of blank index cards and turn them into "flash cards" by writing information on one (or both) sides of each card in preparing for an examination. An individual giving a speech may record notes for that speech on a series of index cards which can be stacked and easily
20 transported or even pocketed. The ubiquitous Post-it® brand notes available from 3M ~~Company~~ ^{Corporation} have also proved quite useful for noting information to be recalled at a later date. A Post-it® brand note is a sheet of paper bearing a band of repositionable pressure sensitive adhesive across a back side thereof. A Post-it® brand note can be mounted on any number of surfaces, such as, for example, another sheet of paper, a wall, a mirror, a
25 computer monitor, refrigerator door, etc. Post-it® brand notes are traditionally distributed in pad form, with adjacent notes adhered to one another by the repositionable pressure sensitive adhesive thereon. The notes stick together whenever placed adjacent one another, and thus are not easily shuffled or rearrangeable in stacked form without peel separation of the adhesive therebetween.

30 Index cards come traditionally in 3 x 5 inch or 4 x 6 inch formats and are typically made from stiff, more durable paper than note paper. There is no adhesive on an index card and it is easily shuffled among a stack of index cards. To stick an index card on a wall or other surface, adding a separate strip of tape may be used. However, it would be desirable to selectively adhere an index card to a surface (such as a wall, sheet of paper
35 or the like) yet retain the ability to shuffle a stack of such index cards (i.e., not have adjacent index cards always adhere together) without having to go to the trouble of removing a tape strip from each index card.

BRIEF SUMMARY OF THE INVENTION

A sheet which may be selectively secured to a mounting surface includes at least a first substrate having a writeable surface on one side thereof and a mounting surface on a second opposite side thereof. The sheet also includes a securing mechanism including a pressure threshold adhesive mechanism which includes pressure sensitive adhesive exposed on the ~~mounting~~^{second} side of the first substrate. In the absence of a threshold level of pressure applied to the securing mechanism, the pressure sensitive adhesive is spaced from the mounting substrate. The sheet is deformable such that a threshold level of pressure applied to the securing mechanism brings the pressure sensitive adhesive into sheet securing engagement with the mounting substrate.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is an embodiment of the present invention, in the form of an index card, as viewed from a front major side thereof.

FIG. 2 is a view of the index card of FIG. 1, from an opposite back major side thereof.

FIG. 3 is a sectional view as taken along lines 3-3 in FIG. 1.

FIG. 4 is a sectional view as taken along lines 4-4 in FIG. 1.

FIG. 5 is top view of the index card of FIG. 4, as taken along lines 5-5 in FIG. 4.

FIG. 6 is a sectional view of the index card of FIG. 4, showing its adherence to a vertical substrate surface.

FIG. 7 is a top view of the index card and substrate of FIG. 6, as taken along lines 7-7 in FIG. 6.

FIG. 8 is a side elevational view of a stack of index cards such as the index card illustrated in FIGS. 1-7, sitting on a horizontal substrate surface with the exposed adhesive on each index card not activated.

FIG. 9 illustrates a second embodiment of the present invention, as viewed from the back side of an index card.

FIG. 10 illustrates a third embodiment of the present invention, as viewed from the top of an index card.

FIG. 11 illustrates the index card of FIG. 10, as adhered to a substrate surface.

FIG. 12 illustrates a fourth embodiment of the present invention, as viewed from the back side of an index card.

FIG. 13 illustrates a fifth embodiment of the present invention, as viewed from the back side of an index card.

CLAIMS:

1. ~~An article~~ ^{sheet} which may be selectively secured to a mounting substrate comprising:

a first substrate having a writeable surface on one side thereof and a mounting surface on a second opposite side thereof; and

5 a ~~securing mechanism including a~~ pressure ^{layer} ~~threshold adhesive mechanism~~ including a pressure sensitive adhesive exposed on the second side of the first substrate, and a ~~standoff~~ ^{<from page 36>},

10 wherein in the absence of a threshold level of pressure applied to the ~~securing mechanism~~ ^{pressure layer}, the pressure sensitive adhesive is spaced from the mounting substrate, and

15 wherein the ~~article~~ ^{sheet} is deformable such that a threshold level of pressure applied to the ~~securing mechanism~~ ^{pressure layer} brings the pressure sensitive adhesive into ~~article~~ ^{sheet}-securing engagement with the mounting substrate.

2. The ~~article~~ ^{sheet} of claim 1 wherein the ~~securing mechanism~~ ^{pressure layer} comprises:

the first substrate having an aperture defined therein; and

20 a second substrate having a first adhesive face and a second pressure face, the first adhesive face being adhered to the writeable surface of the first substrate and extending across the aperture,

wherein the second substrate is deformable such that a threshold level of pressure applied to the pressure face thereof brings the adhesive into contact with the mounting surface.

25 3. The ~~article~~ ^{sheet} of claim 2 wherein the aperture is open along one edge of the first substrate.

4. The ~~article~~ ^{sheet} of claim 2 wherein the second pressure face of the second substrate bears
30 indicia.

5. The ~~article~~ ^{sheet} of claim 1 wherein upon removal of the ~~article~~ ^{sheet} from the mounting

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substrate, the ~~securing mechanism~~ ^{pressure layer} substantially returns to its original undeformed shape.

6. The ~~article~~ ^{sheet} of claim 1 wherein the first substrate is selected from a group consisting of paper, card stock, cardboard, plastic film, and combinations thereof.

7. ~~An index card assembly comprising~~ ^{The sheet of claim 1 wherein the first substrate has}

~~a paper layer having a writeable front side and an opposite back side, the~~
~~paper layer having~~ an upper edge with a portion of the ~~paper layer~~ ^{first substrate}
 being removed to define a paperless zone which includes a gap across
 the upper edge; and wherein the pressure layer includes
 a cover layer having an outer face and an inner face, the cover layer having
 pressure sensitive adhesive disposed on its inner face, with the cover
 layer adhered thereby to the ~~front side~~ ^{writeable surface} of the ~~paper layer~~ ^{first substrate} to cover the
 paperless zone in an alignment where a top edge of the cover layer
 extends across the gap of the paperless zone and the adhesive on the
 inner face of the cover layer is exposed across the paperless zone on
 the ~~back~~ ^{second} side of the ~~paper layer~~ ^{first substrate}.

8. The ~~index card assembly~~ ^{sheet} of claim 7 wherein the ~~paper layer~~ ^{<->} has a thickness
 and the cover layer is sufficiently flexible to bow across the thickness and the paperless
 zone to place at least a portion of the adhesive exposed thereon into adhering contact with ~~the mounting substrate~~ ^{the mounting substrate}
~~surface in abutting engagement with the back side of the paper layer~~.

~~<standoff element comprises a portion of the first substrate which~~

~~The index card assembly of claim 7 wherein the outer face of the cover layer~~
~~is a writeable surface~~

~~The index card assembly of claim 7 wherein the outer face of the cover layer~~
~~bears indicia~~

9. The ~~index card assembly~~ ^{sheet} of claim ~~7~~ ⁴ wherein the indicia includes color.

10. The ~~index card assembly~~ ^{sheet} of claim ~~7~~ ¹ wherein the adhesive is a repositionable

< standoff element comprises a portion of the first substrate which >

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pressure sensitive adhesive.

11. The ~~index card assembly~~^{sheet} of claim 7 wherein the ~~paper layer~~¹ has a thickness sufficient to space the adhesive exposed on the cover layer from a surface in abutting engagement with the ~~back~~^{second} side of the ~~paper layer~~^{first substrate}, in the absence of a pressure applied to the outer face of the cover layer urging it toward the surface.

12. The ~~index card assembly~~^{sheet} of claim 11 wherein a plurality of said ~~index card assemblies~~^{sheets} aligned in a stacked orientation fail to adhere together, absent the application of pressure to the outer faces of their respective cover layers.

~~15. The index card assembly of claim 7 wherein the gap is centered across the upper edge of the paper layer.~~

16. The index card assembly of claim 7 wherein the paperless zone has curved edges.

17. The index card assembly of claim 7 wherein the paperless zone is V-shaped.

18. The index card assembly of claim 7 wherein the upper edge of the paper layer and the top edge of the cover layer are co-linear.

19. The index card assembly of claim 7 wherein the paper layer has a plurality of paperless zones with exposed adhesive thereon.

20. The index card assembly of claim 7 wherein the back side of the paper layer is writeable, and further comprising:

the paper layer has a lower edge with a portion of the paper layer being removed to define a second paperless zone which includes a gap across the lower edge; and

a second cover layer having an outer face and an inner face, the second cover layer having pressure sensitive adhesive disposed on its inner face

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~~with the cover layer adhered thereby to the back side of the paper layer to cover the second paperless zone in an alignment where a bottom edge of the second cover layer extends across the gap of the second paperless zone and the adhesive on the inner face of the second cover layer is exposed across the second paperless zone on the front side of the paper layer.~~

21 13.

The ~~article~~^{sheet} of claim 1 wherein the ~~securing mechanism~~^{standoff element} comprises:

a first generally linear raised element on the second side on the first substrate; and

a second generally linear raised element on the second side of the first substrate, the second raised element aligned generally parallel to and spaced from the first raised element,

wherein at least a portion of the pressure sensitive adhesive exposed on the second side of the first substrate is between the first and second raised elements and has a height lower than the first and second raised elements.

22 14.

The ~~article~~^{sheet} of claim ~~21~~¹³ wherein each of the raised elements may be selected from the group consisting of a continuous strip, a discontinuous strip, a bead, a plurality of beads, a rib of the first substrate, a plurality of ribs of the first substrate, a plurality of peaks of the first substrate, and combinations thereof.

~~23. The article of claim 1 wherein the first substrate has an upper edge, and~~

wherein the securing mechanism comprises:

a spacer layer of material extending from the upper edge of the first substrate toward the pressure sensitive adhesive exposed on the second side of the first substrate, the spacer layer having a shape relative to the adhesive and having a height greater than a height of the adhesive, said shape and height of the spacer layer being sufficient to space the adhesive from the mounting substrate in the absence of the application of the threshold level of pressure.

~~24.~~ The article of claim 23 wherein the shape of the spacer layer comprises an edge adjacent the adhesive having one or more arcs thereon.

5 ~~25~~ 15. The ^{sheet}~~article~~ of claim 1 wherein the first substrate has an upper edge, and wherein the ^{pressure layer}~~securing mechanism~~ comprises:

a score line on the first substrate which is spaced from and parallel to the upper edge of the first substrate; and

10 a cut formed through the first substrate, the cut extending from a first end on the score line toward the upper edge to a first turn, extending from the first turn along and spaced from the upper edge to a second turn, and then extending from the second turn away from the upper edge to a second end of the cut on the score line.

15 ~~26~~ 16. The ^{sheet}~~article~~ of claim ¹⁵~~25~~ wherein the cut has a portion thereof which extends parallel to the upper edge of the first substrate.

~~27~~ 17. The ^{sheet}~~article~~ of claim ¹⁵~~25~~ wherein a spacing portion of the first substrate is defined by the upper edge thereof, the score line, and the cut.

20 ~~28~~ 18. The ^{sheet}~~article~~ of claim ¹⁷~~27~~ wherein the ^{pressure layer}~~securing mechanism~~ further comprises:
the adhesive being disposed on the second side of the first substrate above the score line; and
the spacing portion of the first substrate being folded over so that the
25 adhesive thereon is bonded to the second side of the first substrate, thereby defining an upper non-folded tab portion of the first substrate bearing adhesive, and thereby forming a raised layer on the second side of the first substrate which ^{defines the standoff element and which} has a thickness sufficient to space the adhesive on the tab portion from the mounting substrate in the
30 absence of the threshold level of pressure.

~~29~~ 19. The ^{sheet}~~article~~ of claim ¹⁷~~27~~ wherein the ^{pressure layer}~~securing mechanism~~ further comprises:

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the adhesive being disposed on the second side of the first substrate below the score line; and

the spacing portion of the first substrate being folded over so that at least a section thereon is bonded to the second side of the first substrate by the adhesive, with the folded over spacing portion forming a raised layer, relative to adhesive exposed adjacent thereto, which ^{defines the standoff element and which} has a thickness sufficient to space the adhesive exposed from the mounting substrate in the absence of the threshold level of pressure.

10 ~~30.~~ The article of claim 1 wherein the securing mechanism comprises:
a raised ^{standoff} element on the second side of the first substrate, the ~~raised~~ ^{standoff} element having a height greater than a height of the adhesive

15 ~~31. 20.~~ The ^{sheet} ~~article~~ of claim ¹ ~~30~~ wherein the ^{standoff} ~~raised~~ element comprises a layer of masking material applied over portions of the adhesive.

20 ~~32. 21.~~ The ^{sheet} ~~article~~ of claim 1 wherein the ^{pressure layer} ~~securing mechanism~~ comprises:
a recess formed on the second side of the first substrate, the first side of the first substrate having no surface discontinuities relative to the recess, and the adhesive on the second side of the first substrate is disposed only within the recess, the recess having a depth, relative to an unrecessed portion of the second side of the first substrate, which is sufficient to space the adhesive from the mounting substrate in the absence of the application of the threshold level of pressure.

25 ~~33. 22.~~ The ^{sheet} ~~article~~ of claim ²¹ ~~32~~ wherein the first substrate has an upper edge, and wherein the recess has an upper border which extends along and is spaced from the upper edge of the first substrate.

30 ~~34. 23.~~ The article of claim ²² ~~33~~ wherein the first substrate has first and second side edges, and wherein the recess extends across the first substrate from first side edge to the second side edge thereof.

~~35~~ 24. The ^{sheet}~~article~~ of claim 1 wherein the exposed pressure sensitive adhesive has an edge on the second side of first substrate, and wherein the ^{pressure layer}~~securing mechanism~~ comprises:

a spacer layer of material on the second side of the first substrate adjacent the edge of the exposed pressure sensitive adhesive, the spacer layer having having a shape relative to the adhesive and having a height greater than a height of the adhesive, said shape and height of the spacer layer being sufficient to space the adhesive from the mounting substrate in the absence of the application of the threshold level of pressure.

~~36~~ 25. ^{The sheet of claim 13 wherein}
~~An adhesive mountable article comprising:~~

a substrate having a writeable surface on a first side thereof and a mounting surface on a second opposite side thereof;

a pressure sensitive adhesive zone disposed on the second side of the substrate, the pressure sensitive adhesive zone having a first height;

~~a first generally linear raised element on the second side of the substrate,~~
the first raised element ^{is} adjacent to and defining ^a first border for the pressure sensitive adhesive zone; and,

~~a second generally linear raised element on the second side of the substrate,~~
the second raised element aligned generally parallel to and spaced ^{is} from the first raised element; and the second raised element ^{is} adjacent to and defining ^a second border for the pressure sensitive adhesive zone, ~~wherein the pressure sensitive adhesive extends between the first and second raised elements, and wherein the first and second raised elements have heights greater than the first height of the pressure sensitive adhesive zone.~~

~~37~~ 26. The ^{sheet}~~article~~ of claim ~~36~~ ²⁵ wherein the pressure sensitive adhesive zone is disposed on a first section of the substrate, and wherein the first section of the substrate is deformable such that a threshold level of pressure applied to the first side of the substrate

brings the pressure sensitive adhesive zone into ^{sheet}~~article~~-securing engagement with a mounting substrate.

~~38. The article of claim 37 wherein, upon removal of the article from the~~
5 mounting substrate, the first section of the substrate substantially returns to its original undeformed shape.

39. The article of claim 36 wherein the substrate is selected from a group consisting of paper, card stock, cardboard, plastic film, and combinations thereof.

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40. The article of claim 36 wherein the heights of the first and second raised elements are sufficient to space the pressure sensitive adhesive zone from a surface in abutting engagement with the second side of the substrate, in the absence of a pressure applied to the first side of the substrate opposite the pressure sensitive adhesive zone
15 urging it toward the surface.

41. The article of claim 36 wherein each of the raised elements may be selected from a group consisting of a continuous strip, a discontinuous strip, a bead, a plurality of beads, a rib of the substrate, a plurality of ribs of the substrate, a plurality of peaks of the
20 ~~substrate, and combinations thereof~~